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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,084	09/23/2003	David Winn Blevins	000024-165	6340

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EXAMINER

GOKHALE, SAMEER K

ART UNIT PAPER NUMBER

2629

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/670,084	BLEVINS, DAVID WINN	
	Examiner	Art Unit	
	Sameer K. Gokhale	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 8 and 14-16 is/are rejected.
- 7) ☐ Claim(s) 4-6, 9-13, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 17 (the second claim 17, dependent on claim 16) has been renumbered as 18 for this action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 7-8, claim 7 recites the limitation "said another iteration" in line

1. There is insufficient antecedent basis for this limitation in the claim because claim 5, from which claim 7 is dependent on, recites "an iteration" on line 22, but not "another iteration".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Cottone et al. (US 6,677,958) (hereafter, "Cottone").

Regarding claim 1, Cottone teaches a method for color calibrating a transmissive display system comprising the steps of:

applying signal values that select a target color in a look-up table in said display system to establish color on a screen of said display system (Fig. 2, step 30, see col. 3, lines 45-65, and col. 4, lines 1-2, where the target color can be selected from database which is the equivalent of a look-up table);

noting color displayed on said screen (Fig. 2, step 32, see col. 4, lines 2-7);

comparing said color to said target color to determine if said color is within specified tolerance range (Fig. 2, step 34, see lines 2-7, where checking to see if the luminance level is at least 3 decades lower than a maximum luminance level is checking to see if it is in a tolerance range); and

calibrating said display system when it is not within said tolerance range to provide a color within said tolerance range (Fig. 2, step 36, see col. 4, lines 7-9).

Regarding claim 2, Cottone teaches a method wherein said color comparing step includes the steps of:

determining an evaluation parameter for said color (see col. 4, line 2 where the luminance level is the parameter);

determining a target evaluation parameter for said target color (see col. 4, lines 2-7, where the target evaluation color is at least 3 decades lower than a maximum luminance level);

comparing said color evaluation parameter to said target color evaluation parameter to establish a parameter difference value (Fig. 2, step 32 and step 34, where measuring the target value and comparing it to the AIM value is inherently establishing a parameter difference value);

comparing said parameter difference value to said specified tolerance range (Fig. 2, step 32, see col. 4, lines 2-7, where checking to see if the measured target is equal to the aim target inherently involves checking to see if it is in a specified tolerance range, even if that tolerance is zero); and

correcting said color when said parameter is not within said tolerance range (Fig. 2, step 36, see col. 4, lines 7-9).

6. Claims 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Aleksic (US 20030210221).

Regarding claim 14, Aleksic teaches a transmissive display system comprising:
a look-up table (see para. 40, lines 1- 12) coupled to receive signals (Fig. 6, signals 531-533) representative of colors to be displayed on a screen of said transmissive display system (Fig. 6), said look-up table having data accessed by said signals, said data determining illumination levels of primary color filters associated with pixels on said screen (see para. 40, lines 1-12);

a backlight providing illumination of said primary color filters (Fig. 1, backlight 136); and

a processor coupled to said backlight wherein backlight luminance is selected in accordance with ambient light conditions (see para. 12).

Regarding claim 15, Aleksic teaches a transmissive display system wherein said processor includes a light sensor (Fig. 1, light detector 145) that senses ambient light levels and selects backlight luminance in accordance with sensed ambient light levels (see para. 21, lines 1-12).

Regarding claim 16, Aleksic teaches a transmissive display system wherein said processor includes a light sensor (Fig. 1, light detector 145) that senses ambient light levels and provides an indication of optimum backlight luminance (see para. 21, where it

is clear that the sensed ambient light is used to indicate the optimum backlight luminance).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cottone in view of Matsuda et al. (US 7,034,852) (hereafter, "Matsuda").

Regarding claim 3, Cottone teaches the limitations of claim 2 as discussed above, and Cottone further teaches establishing an evaluation parameter for color displayed in response to said correcting step (Fig. 2, see col. 4, lines 2-7, where the luminance value is the evaluation parameter); and comparing said response color to said target color to determine if said response color is within said specified tolerance range of said target color (Fig. 2, step 34, where checking to see if the measured target is equal to the aim target inherently involves checking to see if it is in a specified tolerance range, even if that tolerance is zero). However, Cottone does not explicitly teach adjusting said signal values for said target color to obtain modified signal values.

However, Matsuda does teach a color calibration system for a display that adjusts signal values for said target color to obtain modified signal values (Fig. 2,

section 450, see co.. 10, lines 33-35, where the calibration information output is modifying the input signal values R1, G1, and B1 to become R2, G2, and B2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Matsuda in the method of Cottone in order to add an extra level of color calibration by using calibration information on input signals prior to their input into a look-up table.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cottone in view of Aleksic.

Regarding claim 11, Cottone teaches the limitations of claim 1 as discussed above, however it does not teach a method comprising the steps of checking color displayed on said screen in a second ambience light condition, to determine a second ambient light color; comparing said second ambient light color to said target color to determine if said second ambient light color is within said specified tolerance range; adjusting backlight level when said second ambient light color is not within said tolerance range to provide a color within said tolerance range.

However, Aleksic does teach checking color displayed on said screen in a second ambience light condition, to determine a second ambient light color (see para. 34, lines 11-14, where any detection of the ambient light color at a later point in time is a second ambient light color under a second ambient light condition); comparing said second ambient light color to said target color to determine if said second ambient light color is within said specified tolerance range (see para. 34, lines 11-14, where the

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ambient light color is compared to a color lookup table, which inherently involves checking to see if it is within a specified tolerance range); adjusting backlight level when said second ambient light color is not within said tolerance range to provide a color within said tolerance range (see para. 34, lines 14-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Aleksic in the method of Cottone in order to have a method of counteracting the effects of ambient light color on the display color.

Allowable Subject Matter

10. Claims 4-6, 9-13, 17, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 7-8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Relative to dependent claim 4, the prior art of record (Cottone, Matsuda, Aleksic) does not teach a signals adjusting step of subtracting backlight tristimulus values from corresponding target color tristimulus values to provide a corrected target color tristimulus values.

Relative to dependent claim 17 and 18, the prior art of record (Cottone, Matsuda, Aleksic) does not teach a ratio determinator which provides a ratio of a first backlight luminance to a second backlight luminance; and a luminance modifier coupled to said ratio determinator to modify target color luminance in accordance with said ratio.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kim (US 20020060759) teaches a LCD that adjusts the backlight in order to achieve a proper display color. Stuppi et al. (US 7,002,546) teaches a luminance and chromaticity control of a LCD backlight based on detected levels of color. Yamamoto et al. (US 20010008395) teaches a display that factors in a brightness preservation ratio of the backlight.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameer K. Gokhale whose telephone number is (571) 272-5553. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SKG
June 2, 2006

Sameer Gokhale
Examiner
Art Unit 2629

BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

A handwritten signature in black ink, appearing to read 'B. Shalwala', with a stylized flourish underneath.